

## ABSTRAK

**MUHAMAD FARHAN:** Keefektifan *Problem-Based Learning* dan *Inquiry-Based Learning* Ditinjau dari Prestasi Belajar, Kemampuan Representasi Matematis, dan Motivasi Belajar Matematika Siswa. **Tesis. Yogyakarta: Program Pascasarjana, Universitas Negeri Yogyakarta, 2013**

Penelitian ini bertujuan untuk mendeskripsikan: (1) keefektifan *problem-based learning* dan *inquiry-based learning* ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajarsiswa, (2) keefektifan *problem-based learning* dan *inquiry-based learning* dibandingkan dengan pembelajaran konvensional ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajarsiswa dan, (3) pembelajaran yang lebih efektif antara *problem-based learning* dan *inquiry-based learning* ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajarsiswa.

Penelitian ini adalah penelitian eksperimen semu dengan *pretest-posttest nonequivalent group design*. Populasi dalam penelitian ini adalah seluruh siswa kelas VIII MTs sekecamatan Rasana'e Barat Kota Bima dan sampel dalam penelitian ini adalah siswa kelas VIII MTs Sartu Atap rasana'e Barat Kota Bima. Instrumen yang digunakan untuk mengumpulkan data adalah tes prestasi belajar, tes kemampuan representasi matematika dan angket motivasi belajar siswa. Untuk mengetahui keefektifan *problem-based learning* dan *inquiry-based learning* ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajar siswa, data dianalisis secara univariat dengan statistik uji *one sample t-test* pada taraf signifikansi 5%. Perbedaan rata-rata kelompok diukur dengan uji *three-group MANOVA* dengan kriteria *Wilks lambda* pada taraf signifikansi 5%. Selanjutnya untuk mengetahui keefektifan antara *problem-based learning* dan pembelajaran konvensional, *inquiry-based learning* dan pembelajaran konvensional, serta *problem-based learning* dan *inquiry-based learning* ditinjau dari prestasi belajar, kemampuan representasi matematika dan motivasi belajar siswa, data dianalisis secara univariat menggunakan uji-t *bonferoni* pada taraf signifikansi 5%.

Hasil penelitian menunjukkan bahwa: (1) *problem-based learning* dan *inquiry-based learning* efektif ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajarsiswa, (sedangkan pembelajaran konvensional efektif ditinjau dari motivasi belajar siswa), (2) *problem-based learning* dan *inquiry-based learning* lebih efektif dibandingkan dengan pembelajaran konvensional ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajarsiswa, dan (3) *problem-based learning* lebih efektif dibandingkan dengan *inquiry-based learning* ditinjau dari prestasi belajar, kemampuan representasi matematis, dan motivasi belajarsiswa.

**Kata Kunci:** *problem-based learning, inquiry-based learning, prestasi belajar, kemampuan representasi matematika, motivasi belajar siswa.*

## ABSTRACT

**MUHAMAD FARHAN:** *The Effectiveness of Problem-Based Learning and Inquiry-Based Learning in Terms of Students' Learning Achievement, Mathematical Representation Capabilities, and Motivation. Thesis. Yogyakarta: Graduate School, Yogyakarta State University, 2013.*

This study aims to describe: (1) the effectiveness of problem-based learning and inquiry-based learning in terms of students' learning achievement, mathematical representation capabilities and motivation, (2) the effectiveness of problem-based learning and inquiry-based learning compared with conventional learning in terms of students' learning achievement, mathematical representation capabilities and motivation, and (3) the more effective learning between problem-based learning and inquiry-based learning in terms of students' learning achievement, mathematical representation capabilities and motivation.

This study was a quasi-experimental study using the pretest-posttest non-equivalent group design. The research population comprised all Year VIII students' MTs of sub-district Rasana'e Barat Kota Bima and sample was all Year VIII students of MTs Satu Atap Rasana'e Barat Kota Bima. The data collecting instruments consisted of a learning achievement test, mathematical representation capability test and questionnaires for students' motivation. To determine the effectiveness of problem-based learning and inquiry-based learning in terms of students' learning achievement, mathematical representation capabilities, and motivation, the data were analyzed using the univariate statistics with one sample t-test at the significance level of 5%. The difference in the group mean score was measured using the three-group MANOVA test with Wilks's lambda criteria at the significance level of 5%. Furthermore, to determine the different effectiveness between problem-based learning and conventional learning, inquiry-based learning and conventional learning, and problem-based learning and inquiry-based learning in terms of students' learning achievement, mathematical representation capabilities, and motivation, the data were analyzed using univariate Bonferroni t test at the significance level of 5%.

The results show: (1) problem-based learning and inquiry-based learning are effective in terms of students' learning achievement, mathematical representation capabilities and motivation, (the conventional learning is effective in terms of students' motivation), (2) problem-based learning and inquiry-based learning are more effective than conventional learning in terms of students' learning achievement, mathematical representation capabilities and motivation, and (3) problem-based learning is more effective than inquiry-based learning in terms of students' learning achievement, mathematical representation capabilities and motivation.

**Keywords:** *problem-based learning, inquiry-based learning, learning achievements, mathematical representation capabilities, students' motivation.*

